Water Quality

Designated Beneficial Uses

At the recommendation of the Department of Natural Resources, the Missouri Clean Water Commission determines the quality of water necessary to attain designated "beneficial uses" on Missouri streams. Only the lower eight miles of the Wyaconda River are designated for public drinking water supply (MDNR 1986a). All basin streams are designated for livestock and wildlife watering and protection of aquatic life. No streams in the basin are classified for whole-body contact recreation.

The primary deterrents to recreational use in the basin are high turbidity and siltation, which are direct results of poor soil management (MDNR 1986b). Excessive turbidity and siltation have not only decreased the abundance and diversity of aquatic life and habitat (Missouri Department of Conservation 1978), but have also made boating and canoeing more difficult due the locally heavy sedimentation. Stream channelization has also drastically reduced the amount and quality of aquatic habitats in parts of the basin, and has affected recreational use by creating high banks and steep-sided channels where access is difficult. The lack of public access points to streams in the basin also limits recreational use.

Chemical Quality of the Stream Flow

Water quality data have not been routinely collected because there is no USGS water quality monitoring station within the basin. One reach of the South Wyaconda River and one section of the lower Wyaconda River are considered impaired by the Missouri Department of Natural Resources due to high levels of manganese. These two reaches are on the 303(d) list of impaired waters submitted to the United States Environmental Protection Service. The manganese is derived from natural sources and considered a low priority. The South Wyaconda River also exceeds total maximum daily loads of sediment and silt and is listed as a 303(d) impaired water. This is due to poor land management practices and extensive channelization within the basin.

Non-Point Source Pollution

Sedimentation and excessive turbidity continue to be the basin's most severe water quality problems. Channelization, intensive row-crop farming, and livestock grazing on highly erodable soils have caused much of the problems. Anderson (1980) estimates sheet and rill erosion rates as high as 18 tons/acre/year on tilled land within the basin. Rates on permanent pasture vary between 9 and 13 tons/acre/year.
Agricultural run-off, which includes fertilizer, insecticides, herbicides, and animal waste, also poses a significant threat to water quality in the basin. Although fish kills in the basin are uncommon, they usually can be attributed to low dissolved oxygen concentrations or high levels of ammonia entering the stream from animal feedlots or sewage lagoons.

Point Source Pollution

Point source pollution in the basin is considered insignificant (MDNR 1984). The city of Wyaconda water treatment center discharges into Railroad Slough (MDNR 1976). Two other small privately-owned sewage systems lie within the basin.

Concentrated Animal Feeding Operations

There are no CAFOs within the Missouri portion of the Wyaconda basin (Center for Agricultural, Resources and Environmental Systems 2004). In the Iowa portion of the basin, there are approximately eight permitted confinement operations and eight non-permitted confinement operations. The impact of these facilities is not known, however, it is unlikely they are benefits to the water quality in the basin.